FINDING OF NO SIGNIFICANT IMPACT
AND DECISION RECORD
EA-NM-060-02-035

DECISION: It is my decision to authorize the Application For Permit To Drill Or Deepen (APD), for the Federal IX #3 gas well, submitted by Eland Energy, Inc.. The provisions for the approval of the APD will include the attachment of the Roswell Field Office requirements as defined in the following exhibits; **Exhibit A** - Location Map, **Exhibit B** - Well Drilling Requirements, **Exhibit C** - Conditions of Approval, **Exhibit D** - Permanent Resource Road Requirements, and any special mitigating measures developed in the environmental assessment.

In the event the well proves to be a dry hole, or when the well is abandoned, I recommend that reclamation requirements be attached to the well abandonment, including additional requirements imperative for the complete reclamation of the disturbed areas. These actions are subject to 43 CFR 3160 regulations for Onshore Oil and Gas operations on federal lease NM-16790.

Authority for these actions is the Mineral Leasing Act of February 25, 1920, as amended.

These actions will affect public lands described as:

New Mexico Principal Meridian

Section 3; SW¼SW¼, T. 9 S., R. 26 E.
695' FSL & 745' FWL

FINDING OF NO SIGNIFICANT IMPACT: Based on the analysis of potential environmental impacts contained in the attached environmental assessment, I have determined that impacts resulting from the proposed actions are not expected to be significant and an environmental impact statement is not required.

RATIONALE FOR DECISION: The proposed actions would not result in any undue or unnecessary environmental degradation. Portions of the subject lands and adjacent lands have been used for similar purposes and all present and potential uses and users have been considered.

COMPLIANCE AND MONITORING: The construction phase of the proposed actions and subsequent operational phases will be monitored as per regulations.

/s/ **Larry D. Bray, Assistant Field Manager, Lands and Minerals**

FEB 14 2002

Date

ENVIRONMENTAL ASSESSMENT

EA# NM-060-02-035

WELL NAME & NO.: Federal IX #3
BLM Serial #: NM-16790

Section 3, T. 9 S., R. 26 E., NMPM,
695' FSL & 745' FWL, Unit Letter M

Chaves County, New Mexico

OPERATOR: Eland Energy, Inc.

ACTION: Application for Permit to Drill

SURFACE/MINERAL ESTATE: Federal - Minerals/Surface

I. Introduction

A. Need for the Proposed Action

Eland Energy, Inc. proposes to drill and complete a natural gas well at the above described location. The proposed action is needed to develop the mineral lease.

B. Conformance with Land Use Plan

Oil and gas leasing and development is in conformance with the Roswell Approved Resource Management Plan and Record of Decision, October 1997.

C. Relationship to Statutes, Regulations, or other Plans

The proposed action does not conflict with any known State or local planning, ordinance or zoning.

II. Proposed Action and Alternatives

A. Proposed Action

Eland Energy, Inc. submitted Notices of Staking on 10-11, 2001, to drill the Federal IX Federal #3 gas well. The Application for Permit to Drill was submitted on 11/21, 2001.

The proposed action would include:

1. No new road construction is required for this well. The well pad extends over the travelway of the existing road. The existing road would be rerouted around the east side of the well pad until the drilling phase is completed or if the well is a dry hole, then the road would be realigned to its original alignment. The existing road is approximately 21,900 feet in length, beginning from the Magdelena County road to the proposed well pad. Of the 21,900 feet, all is existing road and 11,616 feet (2.200 miles, 8.000 acres) would cross public lands. The road would have a driving surface (travelway) of 14

feet, with a maximum 30-foot wide surface disturbance area for the road construction. The proposed access road would be constructed and maintained in accordance with the New Mexico Road Policy. Right-Of-Way NM 105301 for an off lease access road has been filed and will be approved concurrent APD. The Right-of-Way will traverse the following public lands:

T. 8 S., R. 26 E.,NMPM
Section 33: S1/2S1/2;
Section 34: SW1/4SW1/4.
T. 9 S., R. 26 E., NMPM
Section 3: Lot 4, NW1/4NW1/4, W1/2SW1/4.

The rerouted access road would access the southeastern corner of the proposed well pad. All other existing access roads would be maintained in as good or better condition than were existing at the commencement of operations.

2. The construction of the proposed well pad would be 300 feet long by 200 feet wide. The construction of the reserve pit would be about 100 feet by 110 feet and dug 4 feet below ground level. The reserve pit would be located on the east side of the well pad. Standard oilfield construction equipment consisting of; track-type tractors, motor graders, dump trucks, and water trucks would be used to construct the access road and well pad. A rotary drilling rig would be used to drill the well to a depth of 6,360 feet. Associated production facilities (e.g., pipeline, separator, storage tanks, etc.) would be installed during the production phase of this well. Topsoil would be stockpiled for future use over the disturbed areas.

The well pad would be constructed over the existing access road and the road would be rerouted/constructed on the east side of the well pad on the northwest corner of the proposed well pad. Ingress and egress along the rerouted segment of road would not be impeded at any time. The obliteration of the existing road is temporary, the road would be rerouted during the drilling operations, and the road would be re-aligned to its original alignment upon well completion or if the well is drilled a dry hole.

3. Surfacing material (caliche/gravel) needed for the construction of the access road and well pad could be obtained by the operator from a federal pit in the SW¼SW¼, Section 34 - T. 8 S. - R. 26 E., Chaves County, New Mexico.

B. Alternatives

1. Relocate the Proposed Action

The well location is determined on the basis of subsurface geologic information and by spacing regulations imposed by the New Mexico Oil Conservation District II. No other alternative location would have significantly fewer impacts than, or have a clear advantage over, the proposed location. Therefore, the alternative of changing the location involved in this action is not analyzed further in this EA.

2. No Action

Under this alternative, the application would be rejected. None of the environmental impacts associated with the proposed action or alternate location would occur. Additionally, economic benefits of the

proposed action would not be realized, and the existing environment, including the developments in place, would remain unchanged.

III. Description of the Affected Environment

A. General Setting

The well pad is located on federal minerals and surface, about 19 miles East of Roswell, N.M.. The mean annual precipitation is 11 to 12 inches. Historical and present use of the subject lands have been limited to livestock grazing and energy development.

B. Rights of Record

An inspection of the Master Title Plats and other Bureau records revealed the following title information pertaining to valid existing prior rights on the subject lands:

- Oil and gas leases: **NM-16790** - covers lease actions.
- No federally administered rights-of-way would be affected in the project area.
- No mining claims are recorded within Sec. 3, T. 9 S., R. 26 E., NMPM.

C. Affected Resources

The following critical resources have been evaluated and are either not present or are not affected by the proposed action or the alternatives in this EA:

Areas of Critical Environmental Concern (ACEC's)
Cultural Resources (02-R-**010**-A)
Farmlands, Prime/Unique
Floodplains
Native American Religious Concerns
Threatened or Endangered Species (Plants & Animals)
Wastes, Hazardous/Solid
Wetlands and Riparian Zones
Wild & Scenic Rivers
Wilderness

1. Air Quality

The area of the proposed action is considered a Class II air quality area. A Class II area allows a moderate amount air quality degradation. The primary sources of air pollution are dust from blowing wind on disturbed or exposed substratum soils and exhaust emissions from motorized equipment.

2. Soils

The proposed action would occur in an area that formed in calcareous alluvial and eolian material in well drained soils on side slopes, depressional areas, and low ridges, referred to as Sotim-Simona association fine sandy loam as described in the Soil Survey of Chaves County, New Mexico, Northern Part (Pages 65 & 66, map #22). The Sotim soil is deep and well drained. Permeability of the Sotim

soils is moderately slow, runoff is medium, and the hazard of water erosion is moderate. The hazard of soil blowing is high. The Simona soil is shallow and well drained. Permeability of the Simona soils is moderately rapid, runoff is rapid, and the hazard of water erosion is high. The hazard of soil blowing is high. The soils are found on 0 to 5 percent slopes. The soils would be affected by the construction of the access road and well pad when earth moving equipment exposes substratum soils and the topsoil is removed for reclamation purposes.

3. Vegetation

The native vegetation in the area is composed of mainly tall and mid grasses, shrubs, and forbs, such as, little bluestem, blue grama, sand dropseed, small soapweed, and common javalinabush. The vegetation in the areas of the proposed action would be affected when the vegetation is cleared from the access road and well pad.

4. Invasive & Noxious Weeds

There are no known populations of noxious or invasive weed species on the proposed access road and well pad. However, known populations of African rue are found within six miles of this proposed site. Care would have to be taken if the equipment were to come through those populations, as seed material would then be transferred to the disturbed soils, which would create an ideal location for a new infestation..

Noxious weeds affect both crops and native plant species in the same way – by out-competing for light, water, and soil nutrients. Noxious weeds cause estimated crop losses of $2 to $3 billion annually. These losses are attributed to: (1) Decreased quality of agricultural products due to high levels of competition from noxious weeds; and (2) decreased quantity of agricultural products due to noxious weed infestations. African rue is known to be an aggressive noxious weed species, with a high cost of elimination, in costs of herbicide, spray time and retreatment.

Further, noxious weeds can negatively affect livestock and dairy producers by making forage unpalatable to livestock, thus decreasing livestock productivity and potentially increasing producers' feed costs. Increased cost to operators are eventually borne by consumers.

5. Ground Water Quality

Fresh water for irrigation and stock use is obtained from the Quaternary Alluvium and Artesia Group. The WS 1 State CB well located in sec. 5, T. 9 S., 27 E., NMPM was converted to a water supply well. The depth of the water zones are 955'- 960' and 1100'-1145' in the Artesia Group. The base of the Artesia Group for this location should be at an approximate depth of 1028. Deepest Expected Fresh Water: above 1028'.

6. Wildlife

Wildlife species utilizing this area for habitat include mule deer, pronghorn antelope, coyote, fox, rabbits, kangaroo rats, pocket gophers, herptile species, as well as a variety of songbirds, dove, quail, and raptors.

No known special status species (plant/animal) or critical habitat are present within the confines of the access road and well pad.

7. Range

The access road and well pad are located on a BLM grazing allotment #65137. Allen W. Leer, HCR 31 Box 1324, Roswell, New Mexico 88201.

8. Visual Resources

The proposed actions are located withing a designated VRM Class IV area. The vegetative setting presents a year-around olive drab color pattern.

9. Recreation

The area around the proposed action site is primarily used by recreational visitors engaged in hunting, off-highway vehicle driving and caving. Other visitors include oil and gas industrial workers and ranchers.

10. Cave/Karst

No surface cave/karst features were observed in the immediate vicinity of the proposed actions. However, the proposed actions are located in a medium karst potential area.

11. Minority or Low-income Populations or Communities

The proposed actions would not affect the minority or low-income populations or communities.

IV. ENVIRONMENTAL IMPACTS

A. Proposed Action Impacts

The surface disturbance involved in the construction of the access road, well pad, and reserve pit would total about 1.7 acres of federal surface.

1. Air Quality

Air quality would temporary be impacted with pollution from exhaust emissions, chemical odors, and dust that would be caused by the motorized equipment used to construct the access road, well pad, and by the drilling rig that will be used to drill the well. Dust dissemination would discontinue upon completion of the construction phase of the access road and well pad. Air pollution from the motorized equipment would discontinue at the completion of the drilling phase of the operations. The winds that frequent the southeastern part of New Mexico generally disperse the odors and emissions. The impacts to air quality would be greatly reduced as the construction and drilling phases are completed.

2. Soils

The construction of the access road and well pad would physically disturb about 1.7 acres of topsoil and would expose the substratum soils. The exposed soils would be susceptible to wind blowing and water erosion. Surfacing the exposed soils on the access road and well pad would minimize these impacts. Construction of the reserve pit 4 feet below ground level would impact deeper soil horizons on the well pad. The impact to the soils would be remedied upon reclamation of the well pad when the stockpiled soil that was specifically conserved to establish a seed bed is spread over the well pad.

Additional soil impacts associated with lease development would occur when heavy precipitation causes water erosion damage. When water saturated segment(s) on the access road become impassable, vehicles may still be driven over the road. Consequently, deep tire ruts would develop. Where impassable segments are created from deep rutting, unauthorized drive-arounds may occur outside the designated travelway of the access road. Road constructions requirements would alleviate potential impacts to the access road from water erosion damage.

3. Vegetation

The construction of the access road and well pad would remove about 1.7 acres of native vegetation. If it is a producing well, reclamation would not commence until the well is a depleted producer and plugged and abandoned. Vegetation recovery on the access road and well pad would depend on the life of the well. Native vegetation would encroach on the well pad over time with only high traffic areas remaining unvegetated. If drilled as a dry hole and plugged, reclamation of the access road and well pad would immediately follow. Vegetation impacts would be short-term when the access road and well pad re-vegetate within a few years, and the reclamation of the access road and well pad are successful.

4. Invasive & Noxious Weeds

The construction of an access road and/or well pad may unintentionally contribute to the establishment and spread of noxious weeds. Noxious weed seeds could be carried onto the project areas by construction equipment, the drilling rig, and transport vehicles. The main mechanism for seed dispersion on the roads and well pads is by equipment and vehicles that were previously used and/or driven over noxious weed infested areas. The potential for the dissemination of invasive and noxious weed seeds may be elevated by the use of construction equipment typically contracted out to companies that may be from other geographic areas in the region. Due to the relatively close proximity of African rue infestations thorough washing and decontaminating the equipment prior to transporting the equipment onto the construction areas would minimize this impact. Equipment cleaning both prior to and leaving the area would also reduce any spread of the rue.

Infestations of noxious weeds can have a potentially disastrous impact on biodiversity and natural ecosystems. In order to combat the negative effects of noxious weeds on crop lands, grazing lands and waterways, herbicidal and other weed control strategies can be implemented at further costs to the operators and government agencies. Such costs would then likely be passed down to consumers, who would pay more for products due to increased costs.

5. Ground Water Quality

The use of a plastic-lined reserve pit would reduce or eliminate seepage of drilling fluid into the soil and eventually reaching groundwater. Spills or produced fluids (e.g., saltwater, oil, and/or condensate

in the event of a breech, overflow, or spill from storage tanks) could result in contamination of the soils onsite, or offsite, and may potentially impact groundwater resources in the long term. The casing and cementing requirements imposed on the proposed well would reduce or eliminate the potential for groundwater contamination from subsurface sources.

6. Wildlife

Some small wildlife species may be killed and their dens or nests destroyed during construction of the access road and well pad. The construction of the access road and well pad could cause fragmentation of wildlife habitat. The short term negative impact to wildlife would occur during the construction phase of the operation due to noise and habitat destruction. In general, most wildlife species would become habituated to the new facilities. For other wildlife species with a low tolerance to activities, the operations on the well pad would continue to displace wildlife from the area due to ongoing disturbances such as vehicle traffic and equipment maintenance. The conditions of approval would alleviate most losses of wildlife species, such as; fencing the reserve pits, netting storage tanks, installation or other modifications of cones on separator stacks, and timing stipulations. Upon abandonment of the well, the area would revegetate and wildlife would return to previous levels.

7. Range

There would be some minor disruption of livestock grazing in the pasture, specifically on the well pad, during the construction and drilling phase of the well.

8. Visual Resources

Facilities, such as condensate and produced water or oil storage tanks that rise above eight feet, would provide a geometrically strong vertical and horizontal visual contrast in form and line to the characteristic landscape and vegetation, which have flat, horizontal to slightly rolling form and line. The construction of an access road, well pad and other ancillary facilities, other than facilities greater in height than eight feet, would slightly modify the existing area visual resources. After the well is completed the view should return to the form, line, color, and texture of the existing landscape. The proposed action is located in an area designated VRM Class IV.

The objective of Class IV is to "Provide for management activities which require major modification of the existing landscape character...Every attempt, however, should be made to reduce or eliminate activity impacts through careful location, minimal disturbance, and repeating the basic landscape elements." The optimum method to repeat these elements would be to remove strong vertical and horizontal contrast through use of low-profile facilities as reflected in the Roswell RMP (1997, p. AP1-4). Depending on the production nature of the well site, multiple low-profile condensate and/or oil or produced water tanks could be necessary to accommodate the project.

Through color manipulation, painting well facilities to blend with the flat to slightly rounded vegetative and landscape setting with olive drab vegetative color is expected to favorably blend with the form, line, color and texture of the existing landscape. The color *Juniper Green* from the standard environmental colors most closely approximates the olive drab color of the vegetative setting and would reduce or eliminate any adverse color contrast. The access road and well pad would be similar to the texture and

horizontal line found throughout the setting. This strategy would be generally acceptable to the various visitors and workers in this setting.

Cumulative adverse visual impacts can be avoided by gradually moving into a more appropriate vegetative/landscape setting color scheme. Facilities with low-profile horizontal line and form would facilitate favorable blending as older facilities go out of production and are removed.

9. Recreation

There should be no impact on recreation activities.

10. Cave/Karst

There would be no impact to known cave entrances, or karst features within the areas of the proposed actions. However, the proposed action is located in a medium karst potential area.

11. Minority or Low-income Populations or Communities

The proposed actions would not impact the minority or low-income populations or communities.

B. Alternatives:

1. Relocation Alternative:

The well location is determined on the basis of subsurface geologic information and also to some extent, by the spacing regulations imposed by the New Mexico Oil Conservation District II. No other alternative well location would have significantly fewer impacts than, or have a clear advantage over the proposed location. The proposed action would also bring about the construction of the well pad over an existing access road. The alternative of moving the well location to avoid the well pad construction over the existing road does not have a significant advantage over other alternatives regarding the existing access road, since minimal disturbance is expected, and the access road will eventually be realigned to it's original alignment. Therefore, the alternative of changing the location involved in this action is not analyzed further in this EA.

2. No Action Alternative:

The no action alternative would constitute denial of the application. This alternative would have no consequential results from the identified environmental impacts. There would, however, be an adverse economic impact to the applicant through the denial of the lessee's right to develop the mineral reserves or through increased costs of accessing those mineral reserves through other means. There have been no significant or unmitigatable impacts identified as a result of this analysis which would warrant selection of the no action alternative.

C. Mitigation:

The Roswell Field Office; Well Drilling Requirements (Exhibit B), Conditions of Approval (Exhibit C), Permanent Resource Road Requirements (Exhibit D), and the special requirements derived from

this EA, would be applied to this proposed action to minimize the surface disturbance and conserve the surrounding landscape.

D. Cumulative Impacts

While it is likely that there will be no significant cumulative impact from the proposed action, continued oil and gas development, and other surface-disturbing activities in this area, may potentially have negative cumulative impacts on vegetation, soil, water, livestock, wildlife, and visual resources.

V. Consultation and Coordination

An onsite inspection was conducted on the access road and well pad on 11/6, 2001. In attendance were Brain Wood, Permits West Consultant for Eland Energy, Inc. (505- 466-8120), and Richard Hill, Environmental Protection Specialist, BLM Roswell Field Office. Coordination and consultation has occurred with the applicant's agent. The comments and suggestions expressed during the onsite consultation have been incorporated into this EA.

Coordination and consultation has occurred with Roswell Field Office staff specialists. The comments and suggestions expressed during the review of the proposed action and environmental assessment have been incorporated into this EA.

Reviewed by:

Irene Gonzales-Salas 02-12-02

Irene Gonzales Salas, Realty Specialist **Date**